Thomas F Mentel

List of Publications by Year
in descending order

109 papers	14,833 citations	36303 51 h-index	25787 108 g-index
159 all docs	159 docs citations	159 times ranked	7565 citing authors

#	Article	IF	Citations
1	The formation, properties and impact of secondary organic aerosol: current and emerging issues. Atmospheric Chemistry and Physics, 2009, 9, 5155-5236.	4.9	3,486
2	A large source of low-volatility secondary organic aerosol. Nature, 2014, 506, 476-479.	27.8	1,448
3	Direct Observations of Atmospheric Aerosol Nucleation. Science, 2013, 339, 943-946.	12.6	876
4	The effect of physical and chemical aerosol properties on warm cloud droplet activation. Atmospheric Chemistry and Physics, 2006, 6, 2593-2649.	4.9	690
5	Aging of Organic Aerosol: Bridging the Gap Between Laboratory and Field Studies. Annual Review of Physical Chemistry, 2007, 58, 321-352.	10.8	492
6	Highly Oxygenated Organic Molecules (HOM) from Gas-Phase Autoxidation Involving Peroxy Radicals: A Key Contributor to Atmospheric Aerosol. Chemical Reviews, 2019, 119, 3472-3509.	47.7	460
7	A novel method for online analysis of gas and particle composition: description and evaluation of a Filter Inlet for Gases and AEROsols (FIGAERO). Atmospheric Measurement Techniques, 2014, 7, 983-1001.	3.1	345
8	General overview: European Integrated project on Aerosol Cloud Climate and Air Quality interactions (EUCAARI) â€“ integrating aerosol research from nano to global scales. Atmospheric Chemistry and Physics, 2011, 11, 13061-13143.	4.9	278
9	New particle formation in forests inhibited by isoprene emissions. Nature, 2009, 461, 381-384.	27.8	253
10	Aging of biogenic secondary organic aerosol via gas-phase OH radical reactions. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 13503-13508.	7.1	251
11	The Formation of Highly Oxidized Multifunctional Products in the Ozonolysis of Cyclohexene. Journal of the American Chemical Society, 2014, 136, 15596-15606.	13.7	236
12	Gas phase formation of extremely oxidized pinene reaction products in chamber and ambient air. Atmospheric Chemistry and Physics, 2012, 12, 5113-5127.	4.9	222
13	Secondary organic aerosol reduced by mixture of atmospheric vapours. Nature, 2019, 565, 587-593.	27.8	222
14	Isoprene oxidation by nitrate radical: alkyl nitrate and secondary organic aerosol yields. Atmospheric Chemistry and Physics, 2009, 9, 6685-6703.	4.9	208
15	Cloud Condensation Nuclei properties of model and atmospheric HULIS. Atmospheric Chemistry and Physics, 2006, 6, 2465-2482.	4.9	202
16	Formation of 3-methyl-1,2,3-butanetricarboxylic acid via gas phase oxidation of pinonic acid â€“ a mass spectrometric study of SOA aging. Atmospheric Chemistry and Physics, 2012, 12, 1483-1496.	4.9	200
17	Temperature dependence of yields of secondary organic aerosols from the ozonolysis of <i>Î±</i>-pinene and limonene. Atmospheric Chemistry and Physics, 2009, 9, 1551-1577.	4.9	190
18	On the Reactive Uptake of Gaseous Compounds by Organic-Coated Aqueous Aerosols:Â Theoretical Analysis and Application to the Heterogeneous Hydrolysis of N2O5. Journal of Physical Chemistry A, 2006, 110, 10435-10443.	2.5	168

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19	Formation of highly oxidized multifunctional compounds: autoxidation of peroxy radicals formed in the ozonolysis of alkenes â€“ deduced from structureâ€“product relationships. Atmospheric Chemistry and Physics, 2015, 15, 6745-6765.	4.9	162
20	Missing Gas-Phase Source of HONO Inferred from Zeppelin Measurements in the Troposphere. Science, 2014, 344, 292-296.	12.6	154
21	The density of humic acids and humic like substances (HULIS) from fresh and aged wood burning and pollution aerosol particles. Atmospheric Chemistry and Physics, 2006, 6, 5213-5224.	4.9	147
22	Atmospheric nucleation: highlights of the EUCAARI project and future directions. Atmospheric Chemistry and Physics, 2010, 10, 10829-10848.	4.9	144
23	Heterogeneous freezing of droplets with immersed mineral dust particles â€“ measurements and parameterization. Atmospheric Chemistry and Physics, 2010, 10, 3601-3614.	4.9	138
24	Nitrate effect in the heterogeneous hydrolysis of dinitrogen pentoxide on aqueous aerosols. Physical Chemistry Chemical Physics, 1999, 1, 5451-5457.	2.8	137
25	Photochemical production of aerosols from real plant emissions. Atmospheric Chemistry and Physics, 2009, 9, 4387-4406.	4.9	133
26	Influence of an organic coating on the reactivity of aqueous aerosols probed by the heterogeneous hydrolysis of N2O5. Geophysical Research Letters, 2003, 30, .	4.0	130
27	Phase partitioning and volatility of secondary organic aerosol components formed from Î±-pinene ozonolysis and OH oxidation: the importance of accretion products and other low volatility compounds. Atmospheric Chemistry and Physics, 2015, 15, 7765-7776.	4.9	126
28	Effects of NO_{<i>x</i>} and SO₂ on the secondary organic aerosol formation from photooxidation of <i>Î±</i>-pinene and limonene. Atmospheric Chemistry and Physics, 2018, 18, 1611-1628.	4.9	110
29	A study of nighttime nitrogen oxide oxidation in a large reaction chamberâ€”the fate of NO2, N2O5, HNO3, and O3 at different humidities. Atmospheric Environment, 1996, 30, 4007-4020.	4.1	109
30	Heterogeneous reaction of N2O5on sodium nitrate aerosol. Journal of Geophysical Research, 1998, 103, 31103-31112.	3.3	109
31	Hygroscopic growth of atmospheric and model humic-like substances. Journal of Geophysical Research, 2007, 112, .	3.3	104
32	Secondary aerosol formation from stress-induced biogenic emissions and possible climate feedbacks. Atmospheric Chemistry and Physics, 2013, 13, 8755-8770.	4.9	96
33	Relative importance of organic coatings for the heterogeneous hydrolysis of N₂O₅ during summer in Europe. Journal of Geophysical Research, 2009, 114, .	3.3	92
34	Impact of NO_{<i>x</i>} and OH on secondary organic aerosol formation from <i>Î²</i>-pinene photooxidation. Atmospheric Chemistry and Physics, 2016, 16, 11237-11248.	4.9	89
35	Irreversible impacts of heat on the emissions of monoterpenes, sesquiterpenes, phenolic BVOC and green leaf volatiles from several tree species. Biogeosciences, 2012, 9, 5111-5123.	3.3	84
36	Gas-phase reaction of N2O5with water vapor: Importance of heterogeneous hydrolysis of N2O5and surface desorption of HNO3in a large Teflon chamber. Geophysical Research Letters, 1998, 25, 2169-2172.	4.0	83

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37	Enhanced Volatile Organic Compounds emissions and organic aerosol mass increase the oligomer content of atmospheric aerosols. Scientific Reports, 2016, 6, 35038.	3.3	80
38	Multi-generation OH oxidation as a source for highly oxygenated organic molecules from aromatics. Atmospheric Chemistry and Physics, 2020, 20, 515-537.	4.9	78
39	Intercomparison of measurements of NO₂ concentrations in the atmosphere simulation chamber SAPHIR during the NO3Comp campaign. Atmospheric Measurement Techniques, 2010, 3, 21-37.	3.1	77
40	Aerosol Mass Spectrometric Features of Biogenic SOA: Observations from a Plant Chamber and in Rural Atmospheric Environments. Environmental Science & Technology, 2009, 43, 8166-8172.	10.0	75
41	Urban stress-induced biogenic VOC emissions and SOA-forming potentials in Beijing. Atmospheric Chemistry and Physics, 2016, 16, 2901-2920.	4.9	74
42	Formation of anthropogenic secondary organic aerosol (SOA) and its influence on biogenic SOA properties. Atmospheric Chemistry and Physics, 2013, 13, 2837-2855.	4.9	73
43	Reactive Uptake of N₂O₅ by Aerosols Containing Dicarboxylic Acids. Effect of Particle Phase, Composition, and Nitrate Content. Journal of Physical Chemistry A, 2009, 113, 5082-5090.	2.5	71
44	Experimental study of the role of physicochemical surface processing on the IN ability of mineral dust particles. Atmospheric Chemistry and Physics, 2011, 11, 11131-11144.	4.9	70
45	Secondary organic aerosol formation from hydroxyl radical oxidation and ozonolysis of monoterpenes. Atmospheric Chemistry and Physics, 2015, 15, 991-1012.	4.9	67
46	Volatility of secondary organic aerosol during OH radical induced ageing. Atmospheric Chemistry and Physics, 2011, 11, 11055-11067.	4.9	66
47	Suppression of new particle formation from monoterpene oxidation by NO_x. Atmospheric Chemistry and Physics, 2014, 14, 2789-2804.	4.9	63
48	Environmental conditions regulate the impact of plants on cloud formation. Nature Communications, 2017, 8, 14067.	12.8	62
49	Influence of relative humidity and temperature on the production of pinonaldehyde and OH radicals from the ozonolysis of Î±-pinene. Atmospheric Chemistry and Physics, 2010, 10, 7057-7072.	4.9	61
50	Surface modification of mineral dust particles by sulphuric acid processing: implications for ice nucleation abilities. Atmospheric Chemistry and Physics, 2011, 11, 7839-7858.	4.9	60
51	Aerosol chemical composition at Cabauw, The Netherlands as observed in two intensive periods in May 2008 and March 2009. Atmospheric Chemistry and Physics, 2012, 12, 4723-4742.	4.9	60
52	Evolution of the complex refractive index in the UV spectral region in ageing secondary organic aerosol. Atmospheric Chemistry and Physics, 2014, 14, 5793-5806.	4.9	60
53	Hygroscopic growth and droplet activation of soot particles: uncoated, succinic or sulfuric acid coated. Atmospheric Chemistry and Physics, 2012, 12, 4525-4537.	4.9	57
54	The chemical and microphysical properties of secondary organic aerosols from Holm Oak emissions. Atmospheric Chemistry and Physics, 2010, 10, 7253-7265.	4.9	55

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55	Determination of the biogenic secondary organic aerosol fraction in the boreal forest by NMR spectroscopy. Atmospheric Chemistry and Physics, 2012, 12, 941-959.	4.9	51
56	Intercomparison of NO₃ radical detection instruments in the atmosphere simulation chamber SAPHIR. Atmospheric Measurement Techniques, 2013, 6, 1111-1140.	3.1	49
57	Isoprene in poplar emissions: effects on new particle formation and OH concentrations. Atmospheric Chemistry and Physics, 2012, 12, 1021-1030.	4.9	47
58	Organic Nitrate Contribution to New Particle Formation and Growth in Secondary Organic Aerosols from Î±-Pinene Ozonolysis. Environmental Science & Technology, 2016, 50, 6334-6342.	10.0	47
59	Cloud condensation nuclei activity, droplet growth kinetics, and hygroscopicity of biogenic and anthropogenic secondary organic aerosol (SOA). Atmospheric Chemistry and Physics, 2016, 16, 1105-1121.	4.9	43
60	Highly Oxygenated Molecules from Atmospheric Autoxidation of Hydrocarbons: A Prominent Challenge for Chemical Kinetics Studies. International Journal of Chemical Kinetics, 2017, 49, 821-831.	1.6	43
61	Soluble mass, hygroscopic growth, and droplet activation of coated soot particles during LACIS Experiment in November (LExNo). Journal of Geophysical Research, 2010, 115, .	3.3	40
62	Biotic stress: a significant contributor to organic aerosol in Europe?. Atmospheric Chemistry and Physics, 2014, 14, 13643-13660.	4.9	40
63	Impact of NO_{<i>x</i>} on secondary organic aerosolÂ(SOA) formation from <i>Î±</i>-pinene and <i>Î²</i>-pinene photooxidation: the role of highly oxygenated organic nitrates. Atmospheric Chemistry and Physics, 2020, 20, 10125-10147.	4.9	40
64	Size dependent partitioning of organic material: evidence for the formation of organic coatings on aqueous aerosols. Journal of Atmospheric Chemistry, 2007, 57, 215-237.	3.2	38
65	Evidence for an unidentified non-photochemical ground-level source of formaldehyde in the Po Valley with potential implications for ozone production. Atmospheric Chemistry and Physics, 2015, 15, 1289-1298.	4.9	36
66	Effect of NO_{<i>x</i>} on 1,3,5-trimethylbenzeneÂ(TMB) oxidation product distribution and particle formation. Atmospheric Chemistry and Physics, 2019, 19, 15073-15086.	4.9	36
67	Impacts of soil moisture on de novo monoterpene emissions from European beech, Holm oak, Scots pine, and Norway spruce. Biogeosciences, 2015, 12, 177-191.	3.3	35
68	Carboxylic acids from limonene oxidation by ozone and hydroxyl radicals: insights into mechanisms derived using a FIGAERO-CIMS. Atmospheric Chemistry and Physics, 2019, 19, 13037-13052.	4.9	35
69	Intercomparison of cloud condensation nuclei and hygroscopic fraction measurements: Coated soot particles investigated during the LACIS Experiment in November (LExNo). Journal of Geophysical Research, 2010, 115, .	3.3	34
70	Studying the vertical aerosol extinction coefficient by comparing in situ airborne data and elastic backscatter lidar. Atmospheric Chemistry and Physics, 2016, 16, 4539-4554.	4.9	33
71	Hygroscopic growth and CCN activity of HULIS from different environments. Journal of Geophysical Research, 2012, 117, .	3.3	32
72	Morphological characterization of soot aerosol particles during LACIS Experiment in November (LExNo). Journal of Geophysical Research, 2010, 115, .	3.3	31

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73	Sizeâ€dependent hygroscopicity parameter (Î²) and chemical composition of secondary organic cloud condensation nuclei. Geophysical Research Letters, 2015, 42, 10,920.	4.0	31
74	Highly oxygenated organic molecule (HOM) formation in the isoprene oxidation by NO₃ radical. Atmospheric Chemistry and Physics, 2021, 21, 9681-9704.	4.9	30
75	Morphological transformation of soot: investigation of microphysical processes during the condensation of sulfuric acid and limonene ozonolysis product vapors. Atmospheric Chemistry and Physics, 2018, 18, 9845-9860.	4.9	27
76	Examination of laboratoryâ€generated coated soot particles: An overview of the LACIS Experiment in November (LExNo) campaign. Journal of Geophysical Research, 2010, 115, .	3.3	25
77	Updated aerosol module and its application to simulate secondary organic aerosols during IMPACT campaign May 2008. Atmospheric Chemistry and Physics, 2013, 13, 6289-6304.	4.9	25
78	Aerosol mass spectrometric measurements of stable crystal hydrates of oxalates and inferred relative ionization efficiency of water. Journal of Aerosol Science, 2011, 42, 11-19.	3.8	24
79	Characterization of total ecosystem-scale biogenic VOC exchange at a Mediterranean oakâ€“hornbeam forest. Atmospheric Chemistry and Physics, 2016, 16, 7171-7194.	4.9	24
80	Novel method of generation of Ca(HCO₃)₂ and CaCO₃ aerosols and first determination of hygroscopic and cloud condensation nuclei activation properties. Atmospheric Chemistry and Physics, 2010, 10, 8601-8616.	4.9	22
81	Comparison of N₂O₅ mixing ratios during NO3Comp 2007 in SAPHIR. Atmospheric Measurement Techniques, 2012, 5, 2763-2777.	3.1	21
82	Modelling the contribution of biogenic volatile organic compounds to new particle formation in the JÃ¼lich plant atmosphere chamber. Atmospheric Chemistry and Physics, 2015, 15, 10777-10798.	4.9	19
83	Molecular composition and volatility of multi-generation products formed from isoprene oxidation by nitrate radical. Atmospheric Chemistry and Physics, 2021, 21, 10799-10824.	4.9	19
84	Subâ€Doppler infrared spectroscopy of HCCCNâ€“BF3 (v1) and HCNâ€“BF3 (v1 and 2v1). Journal of Chemical Physics, 1994, 101, 2762-2771.	3.0	18
85	OH-initiated degradation of several hydrocarbons in the atmosphere simulation chamber SAPHIR. Journal of Atmospheric Chemistry, 2007, 57, 203-214.	3.2	18
86	Measurements of hydroperoxy radicals (HO₂) at atmospheric concentrations using bromide chemical ionisation mass spectrometry. Atmospheric Measurement Techniques, 2019, 12, 891-902.	3.1	18
87	Vertical profiling of aerosol hygroscopic properties in the planetary boundary layer during the PEGASOS campaigns. Atmospheric Chemistry and Physics, 2016, 16, 7295-7315.	4.9	17
88	Highly Oxygenated Organic Nitrates Formed from NO₃ Radical-Initiated Oxidation of Î²-Pinene. Environmental Science & Technology, 2021, 55, 15658-15671.	10.0	17
89	Pressure dependence of hydroxyl stretching vibrations. 2. Complexes of perfluoro-tert-butyl alcohol with aromatic acceptors. The Journal of Physical Chemistry, 1991, 95, 68-74.	2.9	16
90	Chemical characterisation of benzene oxidation products under high- and low-NO_{<i>x</i>} conditions using chemical ionisation mass spectrometry. Atmospheric Chemistry and Physics, 2021, 21, 3473-3490.	4.9	16

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91	Gas-Particle Partitioning and SOA Yields of Organonitrate Products from NO₃-Initiated Oxidation of Isoprene under Varied Chemical Regimes. ACS Earth and Space Chemistry, 2021, 5, 785-800.	2.7	15
92	Parameterization of Thermal Properties of Aging Secondary Organic Aerosol Produced by Photo-Oxidation of Selected Terpene Mixtures. Environmental Science & Technology, 2014, 48, 6168-6176.	10.0	14
93	Ambient and laboratory observations of organic ammonium salts in PM₁. Faraday Discussions, 2017, 200, 331-351.	3.2	14
94	Pressure dependence of hydroxyl stretching vibrations. 1. Fluoroalkyl alcohols in nonpolar solvents. The Journal of Physical Chemistry, 1990, 94, 1059-1065.	2.9	11
95	Response to Comment on â€œMissing gas-phase source of HONO inferred from Zeppelin measurements in the troposphereâ€. Science, 2015, 348, 1326-1326.	12.6	10
96	Oî—¸H frequency shifts of fluorinated alcohols in nonpolar solvents for high pressures and low temperatures. Journal of Molecular Structure, 1986, 143, 321-324.	3.6	9
97	A chamber study of the influence of boreal BVOC emissions and sulfuric acid on nanoparticle formation rates at ambient concentrations. Atmospheric Chemistry and Physics, 2016, 16, 1955-1970.	4.9	9
98	Zeppelin-led study on the onset of new particle formation in the planetary boundary layer. Atmospheric Chemistry and Physics, 2021, 21, 12649-12663.	4.9	9
99	Infrared spectroscopic structure investigations of 1-hexanol: dependence on high pressure. Journal of Molecular Structure, 1985, 129, 237-247.	3.6	8
100	A Four Carbon Organonitrate as a Significant Product of Secondary Isoprene Chemistry. Geophysical Research Letters, 2022, 49, .	4.0	8
101	The Rotationally Resolved 3-Î¼M Spectrum and the Structure of the ICCH Dimer. Journal of Molecular Spectroscopy, 1993, 162, 342-352.	1.2	5
102	Cloud condensation nuclei activity of CaCO₃ particles with oleic acid and malonic acid coatings. Atmospheric Chemistry and Physics, 2018, 18, 7345-7359.	4.9	5
103	High-pressure and density dependence of H-bond complexes in solutions. A spectroscopic study of intermolecular interactions. Journal of Molecular Structure, 1990, 237, 233-247.	3.6	4
104	The pressure dependence of the OH anharmonicity constant of perfluoro-tertbutanol in non solar solvents.. Journal of Molecular Structure, 1990, 218, 333-338.	3.6	4
105	Temperature dependence of the rate coefficient for the Î±-pinene reaction with ozone in the range between 243 K and 303 K. Physical Chemistry Chemical Physics, 2009, 11, 2323.	2.8	4
106	Simulation of atmospheric organic aerosol using its volatilityâ€“oxygen-content distribution during the PEGASOS 2012 campaign. Atmospheric Chemistry and Physics, 2018, 18, 10759-10772.	4.9	3
107	Monitoring intermolecular forces by high pressure infrared spectroscopy?. Journal of Molecular Liquids, 1990, 46, 239-254.	4.9	1
108	Calibration and evaluation of a broad supersaturation scanning (BS2) cloud condensation nuclei counter for rapid measurement of particle hygroscopicity and cloud condensation nuclei (CCN) activity. Atmospheric Measurement Techniques, 2021, 14, 6991-7005.	3.1	1

#	ARTICLE	IF	CITATIONS
109	Probing aerosol formation by comprehensive measurements of gas phase oxidation products. , 2013, , .		0